Coleman, Charles

From: Emilsson, Gunnar <EmilssonGR@cdmsmith.com>
Sent: Thursday, September 10, 2015 3:40 PM
To: Coleman, Charles; Joel Chavez (Jchavez@mt.gov); Brockman, Kenneth <kbrockman@usbr.gov> (kbrockman@usbr.gov)
Subject: Opportunity area ISWP comments
Attachments: Opportunity Area Residential ISWP comments.docx; Dennis 2012 Opportunity DSR Review.docx; Dennis 2013 Opportunity DSR Review.docx

Charlie, Joel, and Ken:

Per yesterday's discussion, attached are comments to the Opportunity Individual Site Work Plans, dated August 28, 2015.

I am also attaching Dennis Neuman's reviews of the DSRs that were conducted in 2013. I cannot find any record in my files of Charlie approving those DSRs. The reviews were completed right before the U.S. government shut down at the end of September 2013, so that may have slipped through the cracks. The above comments are structured to include the DSR reviews as an attachment.

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Comments to the Opportunity Area Individual Site Work Plans
Community Soils Operable Unit
Anaconda Smelter NPL Site
Prepared for Atlantic Richfield Company by Pioneer Technical Services, Inc.
August 28, 2015

General Comments

The Individual Site Work Plans (ISWPs) were submitted to the U.S. Environmental Protection Agency (EPA) by the Atlantic Richfield Company (Atlantic Richfield) as a result of sampling conducted by Atlantic Richfield in response to litigation being pursued by a group of landowners in the community of Opportunity. This sampling was conducted without EPA oversight or approved Sampling and Analysis Plans (SAPs). In 2013, Atlantic Richfield submitted two data validation summary reports documenting the SAP, analytical laboratory data, and data validation activities:

- Data Validation Summary Report, Opportunity Residential Soils Sampling Results, Anaconda Smelter NPL Site. Prepared by Portage Inc., for Pioneer Technical Services, Anaconda, MT. October 2012
- Data Validation Summary Report, Opportunity Residential Soils Sampling Results, Anaconda Smelter NPL Site. Prepared by Portage Inc., for Pioneer Technical Services, Anaconda, MT. June 2013

EPA and DEQ completed reviews (attached) of these data validation summary reports and found the data to be of enforcement quality.

The Residential ISWPs consist of twenty-seven (27) residential properties where the area-weighted average arsenic concentration or lead concentration in one of the 4 depth increments (0 to 2, 2 to 6, 5 to 12, and 12 to 18 inches) in the top 18 inches were determined to be greater than the residential cleanup action level (250 mg/kg arsenic and 400 mg/kg lead). The logic used in selecting the remedies proposed in the ISWPs is in accordance with the recently approved Final Community Soils OU Residential Soils/Dust Remedial Action Work Plan/Final Design Report. As such these ISWPs can be approved with the following comments:

1. The design drawings continue to use the 125 foot circular radius from the centroid of the residence to demark the maximum extent of remediation. As was discussed in previous technical meetings, and agreed to by Atlantic Richfield, it makes more sense to base remediation units on the actual yard component, especially in the community of Opportunity where residential lots are reasonably well defined. Use of the 125 foot radius should be limited to true rural settings where yard components are not defined, such as a cabin surrounded by native vegetation with no lawn. The remedial units should be determined through the initial pre-construction walkthrough with the Agencies prior to construction.

2. Under the previous residential soils RA where the Agencies participated in oversight, the plan drawings showed the locations of the subsampling locations within the yard components. This was useful in verifying that the sampling was conducted in accordance with the CSOU SOP S-04 (e.g., one subsample per 625 square feet). Future ISWPs must include this information.

End of comments.

MEMORANDUM

KC HARVEY
ENVIRONMENTAL, LLC

TO: Gunnar Emilsson, CDM Smith

FROM: Dennis Neuman

DATE: September 27, 2013

SUBJECT: Review of Data Validation Summary Report, Opportunity Residential Soils Sampling Results, Anaconda Smelter NPL Site. Prepared by Portage Inc., for Pioneer Technical Services, Anaconda, MT. **October 2012.**

This report is a summary of data validation for soil samples collected from residential yards in the town of Opportunity and vicinity in 2012 only. The samples were collected and determinations of arsenic, lead, cadmium, copper, and zinc concentrations under the guidance of a Sampling and Analysis Plan (ARCO, April 2012). Comments:

General

This data validation report is complete in that it describes the overall project data quality, provides a listing of the data from the analytical laboratory, validation checklists, and a summary of field QC results for field blanks, field duplicates, and recovery of NIST SRM (field standards).

Although not stated in this document, I judge the data to be **Enforcement Quality** as defined in the Clark Fork River Site Superfund Investigation Data Management/Data Validation document.

Precision

The precision of the data was estimated by evaluating the relative percent difference in 77sets of field duplicates. The SAP document did not provide QC limits for precision; however the data validator used a control window of $\pm$ 35% for values >5x the MDL, and $\pm$2x MDL for values < 5x MDL. The CFRSSI documents do not specify an acceptance RPD (relative percent difference) value for field duplicate results. However a 35% RPD value can be used as a guideline with the data validator using professional judgment on the impact on natural sample results of RPD values exceeding the guideline. In this investigation, all field duplicates, with one RDP value for lead, were within the control limits.

Accuracy

The accuracy of the data was assessed by determining the recovery of analyte concentrations in two NIST Standard Reference Materials. Again the SAP document did not specify control limits for this QC audit; the data validator used a control window of 80-120% recovery. The CFR SSI documents also do not specify percent recovery control window for field standards; a guideline of 80 to 120% may be applied. Most of the recovery data in this study were within this control window.

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Representativeness

The representativeness section of this Data Validation Report is not an accurate assessment of the environmental conditions in terms of the density of sampling as defined in the SAP document and reported in the DSR report. My conclusion in terms of representativeness of these data was stated in my review of the Data Summary Report (Neuman memo to Emilsson, 8/14/2013); it is restated below:

> Representativeness: In the SAP it is stated that one discrete sample will be collected per individual yard component unless the component is greater than 625 ft^2. And if the yard component exceeds the 625 ft^2, additional subsamples will be collected to meet the collection density for each 625 ft^2. This is consistent with the SOP SS-4. A review of sample collections for some of the larger residential yard areas, as described in the field logbook, showed densities lower than 1 sample per 625 ft^2. For example, property 0009 has a front yard area of 16,120 ft^2 which should have had some 26 sample locations; the log book shows eight sample holes were sampled. The back yard of this property was under-sampled as well. Property 0017 has very large front and back yards with areas of 17,118 and 15,296 ft^2, respectively. Sample densities were approximately 1 per 2000 ft^2. The impact of these sampling densities on the representativeness is not known.

Comparability

Residential yard soils in Opportunity and the vicinity were previously sampled and determinations of arsenic were made in surface soils (0 to 2 inch). Data from the more recent sampling and analysis effort could be compared to the previously collect information for arsenic in surface soils. The recent sampling and analysis of yard soils provides a better characterization of the elemental levels in both surface soils and soils to the 18 inch depth.

Attachment A

This attachment contains 14 data validation checklists used to assess the data. They are complete.

Attachment B

This attachment contains data form Ashe Analytics. No comments.

Attachment C

This attachment displays the results of field blanks, filed duplicates, and recoveries of elemental levels in NIST SRMs. The field blank values were all less than the MDLs.

MEMORANDUM

KC HARVEY
ENVIRONMENTAL, LLC

TO: Gunnar Emilsson, CDM Smith

FROM: Dennis Neuman

DATE: September 30, 2013

SUBJECT: Review of Data Validation Summary Report, Opportunity Residential Soils Sampling Results, Anaconda Smelter NPL Site. Prepared by Portage Inc., for Pioneer Technical Services, Anaconda, MT. **June 2013.**

This report is a summary of data validation for soil samples collected from residential yards in the town of Opportunity and vicinity in 2013 only. The samples were collected and determinations of arsenic, lead, cadmium, copper, and zinc concentrations under the guidance of a Sampling and Analysis Plan (ARCO, April 2012). Comments:

General

This data validation report is complete in that it describes the overall project data quality, provides a listing of the data from the analytical laboratory, validation checklists, and a summary of field QC results for field blanks, field duplicates, and recovery of NIST SRM (field standards).

Although not stated in this document, I judge the data to be **Enforcement Quality** as defined in the Clark Fork River Site Superfund Investigation Data Management/Data Validation document.

Precision

The precision of the data was estimated by evaluating the relative percent difference in 4 sets of field duplicates. The SAP document did not provide QC limits for precision; however the data validator used a control window of $\pm$ 35% for values >5x the MDL, and $\pm$2x MDL for values < 5x MDL. The CFRSSI documents do not specify an acceptance RPD (relative percent difference) value for field duplicate results. However a 35% RPD value can be used as a guideline with the data validator using professional judgment on the impact on natural sample results of RPD values exceeding the guideline. In this investigation, all field duplicates, with one RDP value for lead, were within the control limits.

Accuracy

The accuracy of the data was assessed by determining the recovery of analyte concentrations in two NIST Standard Reference Materials. Again the SAP document did not specify control limits for this QC audit; the data validator used a control window of 80-120% recovery. The CFR SSI documents also do not specify percent recovery control window for field standards; a guideline of 80 to 120% may be applied. All of the recovery data in this study were within this control window.

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Attachment A

This attachment contains one data validation checklists used to assess the data. It is complete.

Attachment B

This attachment contains data form Ashe Analytics. No comments.

Attachment C

This attachment displays the results of field blanks, filed duplicates, and recoveries of elemental levels in NIST SRMs. The field blank values were all less than the MDLs.